

AMENDMENT

In the claims

Please amend claims 1-5, 7-14, 16-21, and 23-28, cancel claims 6, 15, and 22, and add new claims 29-34.

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Claim 1. (currently amended) An electroporation apparatus ~~for introducing a composition into at least one cell in a vessel in a subject~~ comprising:

a catheter having at least one inflatable balloon portion;

proximal to the at least one inflatable balloon portion, at least one an infusion opening in the catheter for introducing the a composition containing a therapeutic agent into a vessel in ~~into the a subject proximal to the at least one inflatable balloon portion;~~

a first electrode on the catheter positioned adjacent to ~~at least one the~~ infusion opening; and

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a second electrode on the catheter positioned proximal to but spaced from the first electrode a distance that allows an electric field to be generated when a voltage is applied between the first and second electrodes after the catheter has been inserted into the vessel, wherein the electric field is sufficient in strength to electroporate cells in the vessel wherein said first and second electrodes are suitable to receive an electric pulse having an electroporating voltage in the range of about 10 Volts to 200 Volts and having a pulse length of about 100 microseconds to 100 milliseconds, and wherein said second electrode is proximally positioned with respect to the first electrode and the subject such that when the electric pulse is applied to the first and second electrodes an electric field is generated in the subject of between 0.5 and 5.0 kV/cm, which is sufficient to cause electroporation of at least one cell in the vessel before, during or after introduction of the composition into the subject through the at least one infusion opening.

Claim 2. (currently amended) The An electroporation apparatus according to ~~of~~ claim 1; further comprising an electrical source connected to the first and second electrodes for applying a voltage between the electric pulse to the electrodes.

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Claim 3. (currently amended) ~~The~~ An electroporation apparatus according to ~~of~~ claim 1,
wherein the vessel is a blood vessel.

Claim 4. (currently amended) ~~The~~ An electroporation apparatus according to ~~of~~ claim 1,
wherein the first electrode is formed at least in part of biologically inert material.

Claim 5. (currently amended) ~~The~~ An electroporation apparatus according to ~~of~~ claim 1,
wherein the second electrode ~~is~~ a guidewire in the catheter.

Claim 6. (canceled)

Claim 7. (currently amended) ~~The~~ An electroporation apparatus according to ~~of~~ claim 1,
wherein the catheter has two inflatable balloon portions.

Claim 8. (currently amended) ~~The~~ An electroporation apparatus according to ~~of~~ claim 7,
wherein the ~~at least one~~ infusion opening is between the two inflatable balloon portions.

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Claim 9. (currently amended) ~~The~~ An electroporation apparatus according to ~~of~~ claim 1 or 8,
wherein the first electrode is coincident with the ~~at least one~~ infusion opening.

Claim 10. (currently amended) A catheter, comprising:

a first inflatable balloon portion near a ~~the~~ distal end of the catheter;

a second inflatable balloon portion proximal to the first inflatable balloon portion,

wherein inflation of the first and second balloon portions occludes a vessel between the first and second balloon portions;

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~~at least one~~ an infusion opening for introducing a composition containing a therapeutic agent into a subject, wherein the infusion opening is located between the first and second balloon portions;

a first electrode positioned adjacent to or integral with the ~~at least one~~ infusion opening; and

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a second electrode on the catheter positioned proximal to but spaced from the first electrode a distance that allows an electric field to be generated when a voltage is applied between the first and second electrodes after the catheter has been inserted into the vessel, wherein the electric field is sufficient in strength to electroporate cells in the vessel, wherein said first and second electrodes are suitable to receive an electric pulse having an electroporating voltage in the range of about 10 Volts to 200 Volts and having a pulse length of about 100 microseconds to 100 milliseconds, and wherein said second electrode is proximally positioned with respect to the first electrode and the subject such that when the electric pulse is applied to the first and second electrodes an electric field is generated in the subject of between 0.5 and 5.0 kV/cm, which is sufficient to cause electroporation of at least one cell in the vessel before, during or after introduction of the composition into the subject through the at least one infusion opening.

Claim 11. (currently amended) The A catheter of according to claim 10, further comprising an electrical source connected to the first and second electrodes for applying a voltage between the electrodes in an amount sufficient to cause electroporation of at least one cell.

Claim 12. (currently amended) The A catheter of according to claim 10, wherein the vessel is a blood vessel.

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Claim 13. (currently amended) The A catheter of according to claim 10, wherein the first electrode is formed at least in part of biologically inert material.

Claim 14. (currently amended) The A catheter of according to claim 10, wherein the second electrode is a guidewire in the catheter.

Claim 15. (canceled)

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Claim 16. (currently amended) The A catheter of according to claim 10, wherein the at least one inflatable balloon portion is near the distal end of the catheter.

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Claim 17. (currently amended) An electroporation apparatus for introducing a composition into at least one cell in a vessel in a subject comprising:

a catheter having at least one inflatable balloon portion at a position other than the distal end of the catheter;

proximal to the at least one inflatable balloon portion, at least one an infusion opening in the catheter for introducing the a composition containing a therapeutic agent into a vessel in into the a subject;

a first electrode on the catheter positioned adjacent to ~~at least one~~ the infusion opening; and

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a second electrode on the catheter positioned proximal to but spaced from the first electrode a distance that allows an electric field to be generated when a voltage is applied between the first and second electrodes after the catheter has been inserted into the vessel, wherein the electric field is sufficient in strength to electroporate cells in the vessel, wherein said first and second electrodes are suitable to receive an electric pulse having an electroporating voltage in the range of about 10 Volts to 200 Volts and having a pulse length of about 100 microseconds to 100 milliseconds, and wherein said second electrode is proximally positioned with respect to the first electrode and the subject such that when the electric pulse is applied to the first and second electrodes an electric field is generated in the subject of between 0.5 and 5.0 kV/cm, which is sufficient to cause electroporation of at least one cell in the vessel before, during or after introduction of the composition into the subject through the at least one infusion passage.

Claim 18. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 17; further comprising an electrical source connected to the first and second electrodes for applying a voltage between the electrodes in an amount sufficient to cause electroporation of at least one cell.

Claim 19. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 17, wherein the vessel is a blood vessel.

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Claim 20. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 17, wherein the first electrode is formed at least in part of biologically inert material.

Claim 21. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 17, wherein the second electrode is a guidewire in the catheter.

Claim 22. (canceled)

Claim 23. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 17, wherein the first electrode and the second electrode is each separately selected to be a single electrode or multiple electrodes.

Claim 24. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 23, wherein the multiple electrodes are interdigitated electrodes or concentric ring electrodes.

Claim 25. (currently amended) ~~The catheter~~ An electroporation apparatus according to of claim 10, wherein the first electrode and the second electrode is separately selected to be a single electrode or multiple electrodes.

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Claim 26. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 25, wherein the multiple electrodes are interdigitated electrodes or concentric ring electrodes.

Claim 27. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 17, wherein the first electrode and the second electrode is each separately selected to be a single electrode or multiple electrodes.

Claim 28. (currently amended) ~~The apparatus~~ An electroporation apparatus according to of claim 27, wherein the multiple electrodes are interdigitated electrodes or concentric ring electrodes.

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Claim 29. (new) An electroporation apparatus according to claim 1 wherein the electric field strength is about 100 V/cm to about 5 kV/cm.

Claim 30. (new) An electroporation apparatus according to claim 1 wherein the voltage is about 10 volts to about 200 volts.

Claim 31. (new) An electroporation apparatus according to claim 10 wherein the electric field strength is about 100 V/cm to about 5 kV/cm.

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Claim 32. (new) An electroporation apparatus according to claim 10 wherein the voltage is about 10 volts to about 200 volts.

Claim 33. (new) An electroporation apparatus according to claim 10 wherein the electric field strength is about 100 V/cm to about 5 kV/cm.

Claim 34. (new) An electroporation apparatus according to claim 17 wherein the voltage is about 10 volts to about 200 volts.